

ABSTRACT OF THE INVENTION

The present invention relates to a system and method for scoring peptide matches. Embodiments of the present invention improves identification of peptides and proteins by introducing an appropriate signal detection based scoring system and what is believed to be the new concept of an extended match. To score a match between a first peptide and a second peptide, a stochastic model may be generated based on one or more match characteristics associated with the first peptide, the second peptide and their fragments. A first probability that the first peptide matches the second peptide, and a second probability that the first peptide does not match the second peptide, may be calculated based on the stochastic model. And a match between the first peptide and the second peptide may be scored based at least in part on a ratio between the first probability and the second probability.